Abstract of the Disclosure

As for the specific analyzed object, the spectral profile is prepared. The spectral profile is differentiated and the two-dimensional derivative plot wherein at least one axis denotes the differentiated value is prepared, and at least one component band is estimated based on the characteristic information including the local minimum and the local maximum in the said two-dimensional derivative plot.

The component bands are estimated which construct spectral profile of the analyzed object by iterating the estimation of other component bands in the same procedure and by estimating component bands in order as for the profile with estimated component bands removed from the original spectral profile or the two-dimensional derivative plot.

Further, after estimating the component bands, the band parameter values are so improved as to coincide the specific estimated component bands with complementary estimated component bands with all the component bands removed except for the specific component bands estimated from the original spectral data. The total sum of the distances of the iso-wavenumber lines and the symmetry of the two-dimensional derivative plot are employed as criteria of the coincidence.

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Drawings

7

Level - 2
Version 1.1

09782440.021301

Fig.1

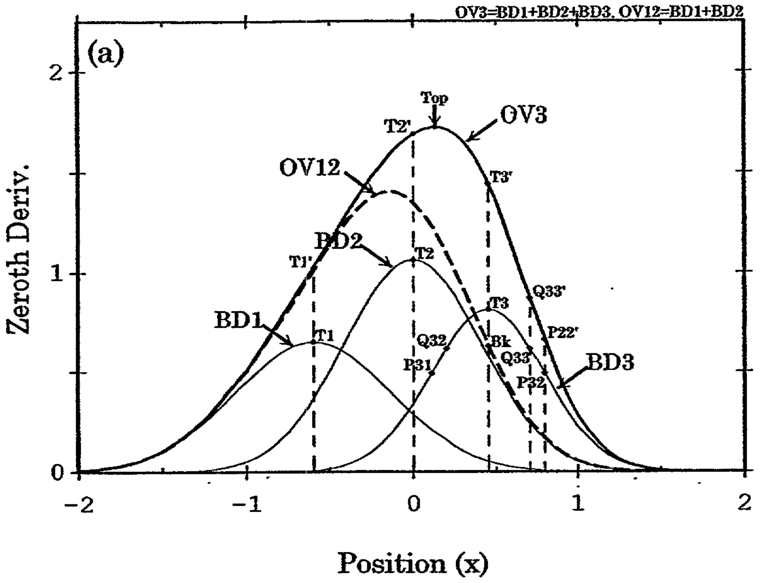

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Fig.2

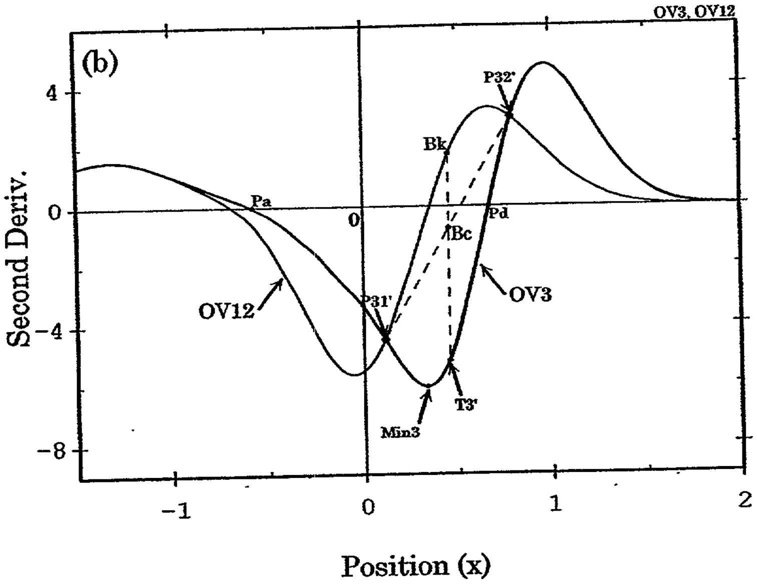

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Fig.3

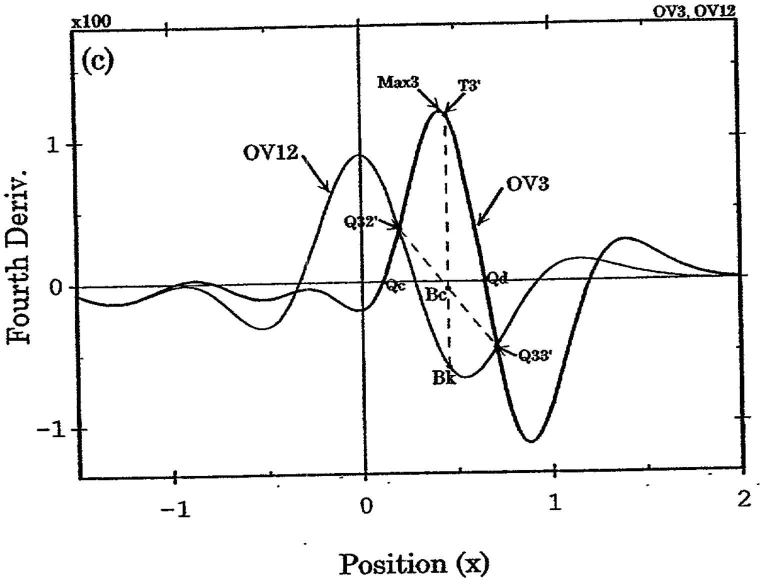

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Fig.4

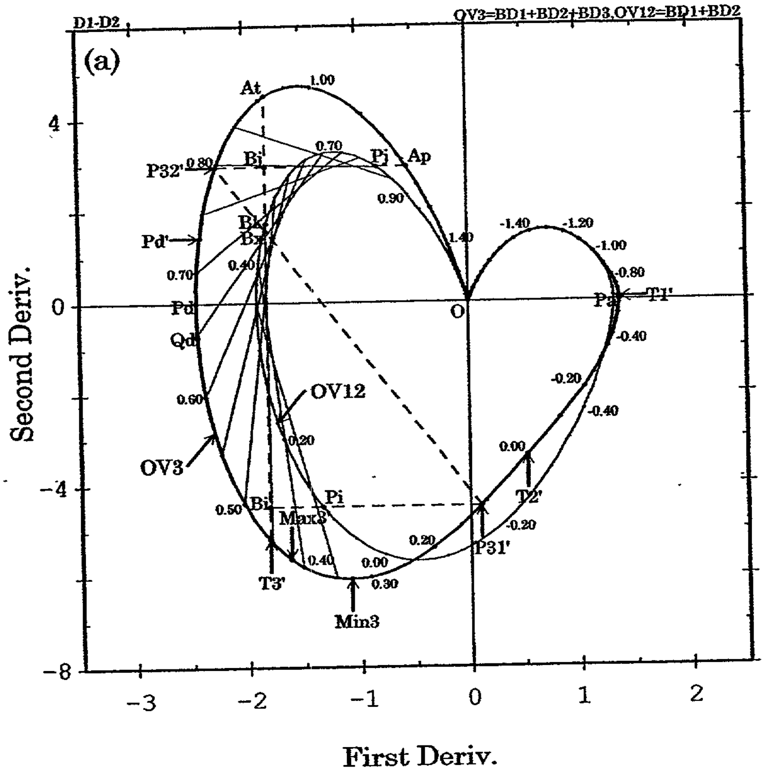
D1-D2
OV3=BD1+BD2+BD3,OV12=BD1+BD2
(a)
At
1.00
P32'
0.80
Bi
0.70
Pj
Ap
0.90
Pd'
Bk
Bx
1.40
-1.40
-1.20
-1.00
-0.80
0.70
0.40
Pd
O
Pa
T1'
Qd
-0.40
-0.20
OV12
0.60
-0.40
0.20
0.00
OV3
T2'
Pi
0.50
Bi
Max3
-0.20
0.20
P31'
0.40
0.00
0.30
T3'
Min3
Second Deriv.
First Deriv.
4
0
−4
−8
−3
−2
−1
0
1
2

Fig.5

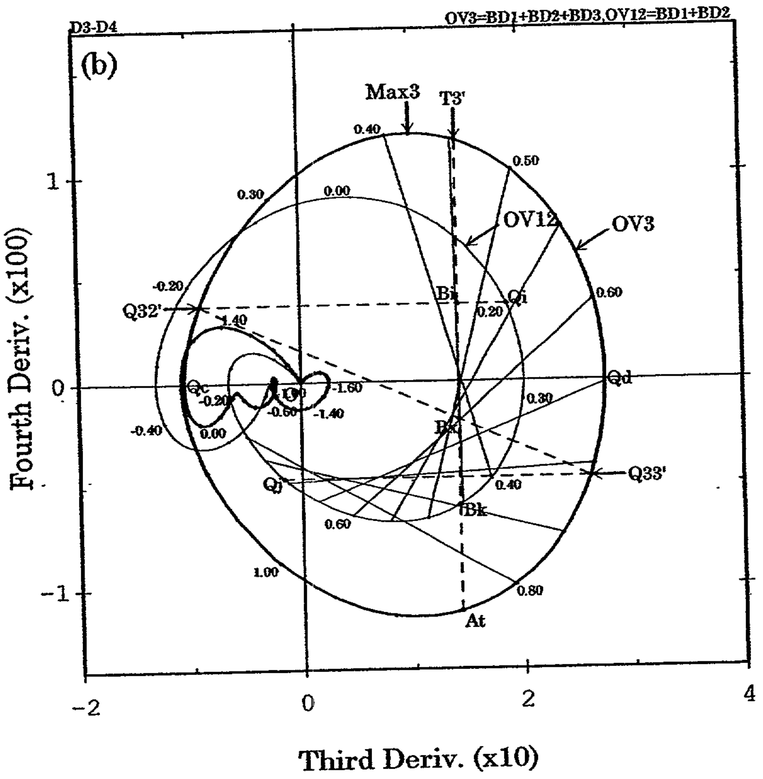

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Fig.6

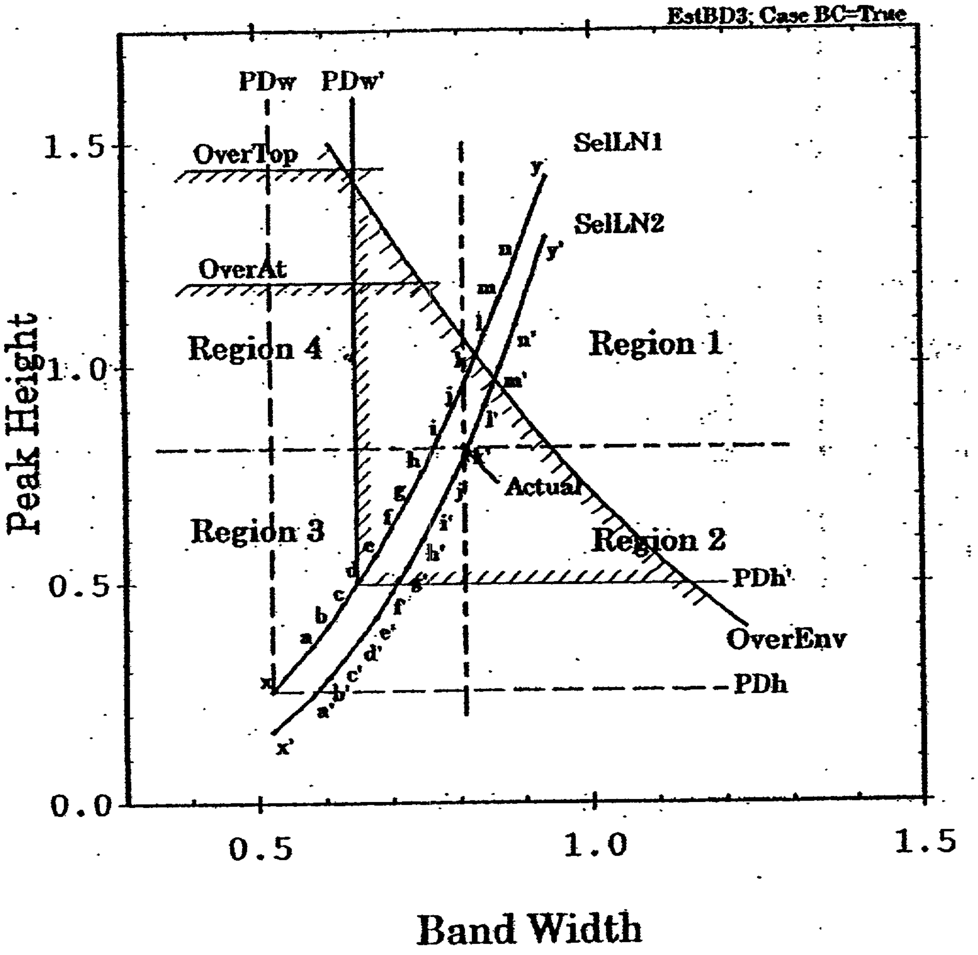
EstBD3; Case BC=True
PDw
PDw'
OverTop
OverAt
SelLN1
SelLN2
Region 4
Region 1
Region 3
Region 2
Actual
PDh'
PDh
OverEnv
a
b
c
d
e
f
g
h
i
j
k
l
m
n
y
a'
b'
c'
d'
e'
f'
g'
h'
i'
j'
k'
l'
m'
n'
x
x'
y'
1.5
1.0
0.5
0.0
0.5
1.0
1.5
Peak Height
Band Width

Fig.7

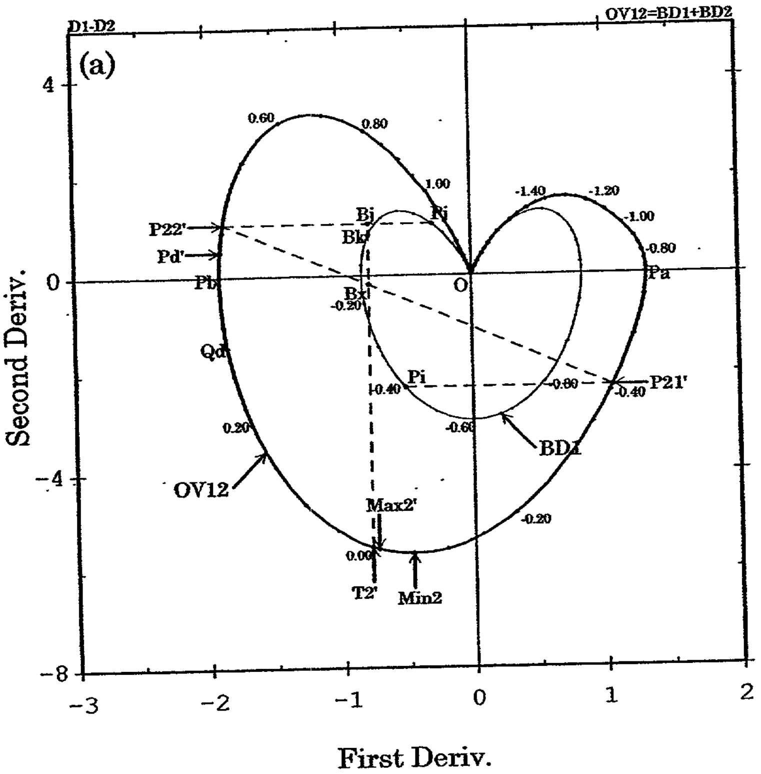

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Fig.8

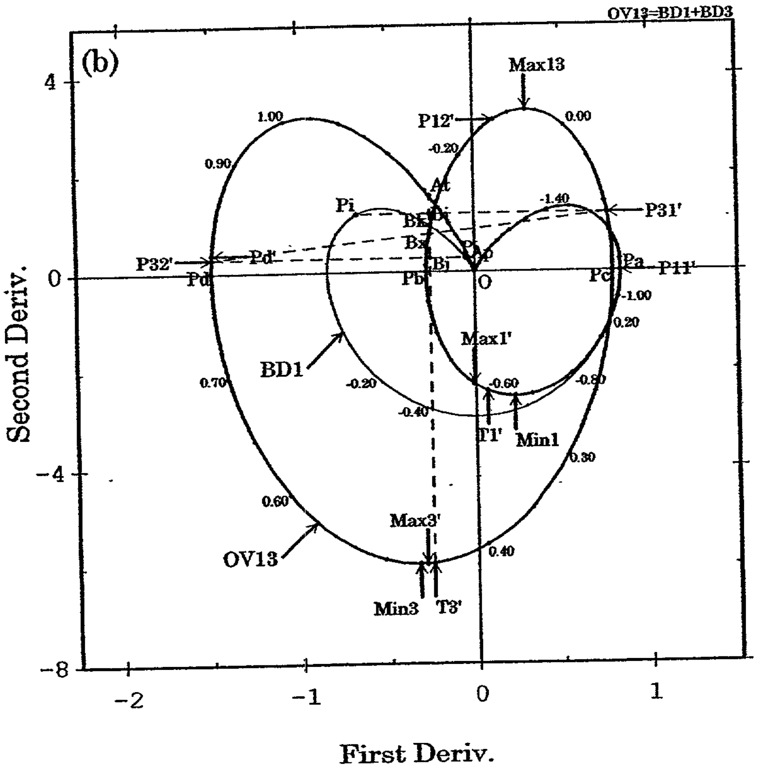

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Fig.9

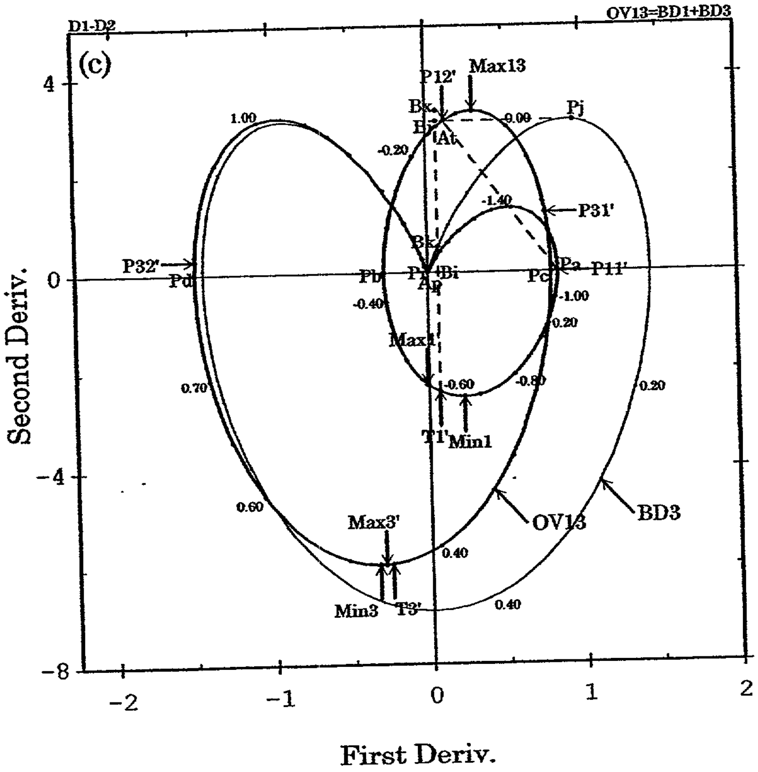

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Fig.10

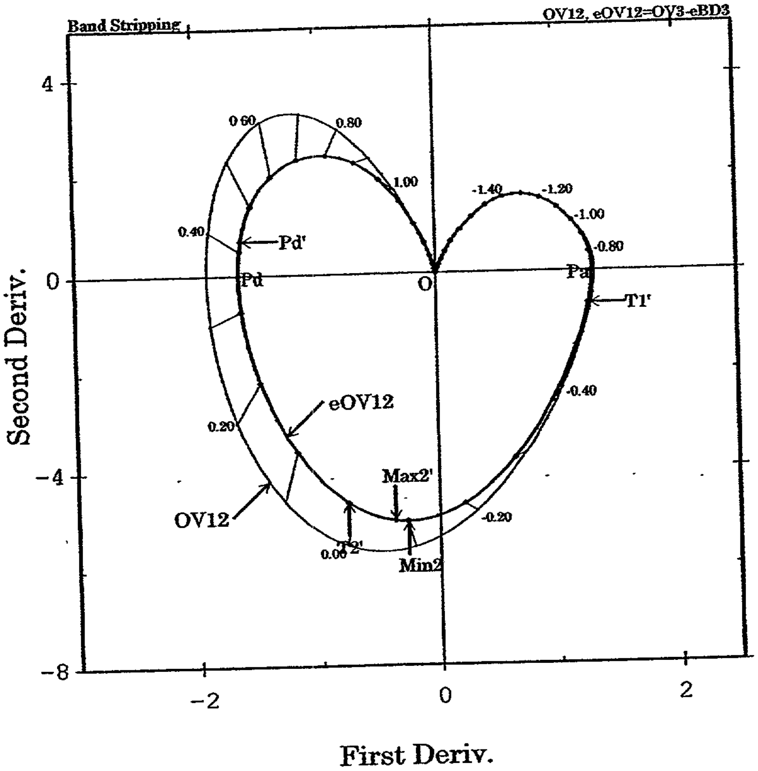

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Fig.11

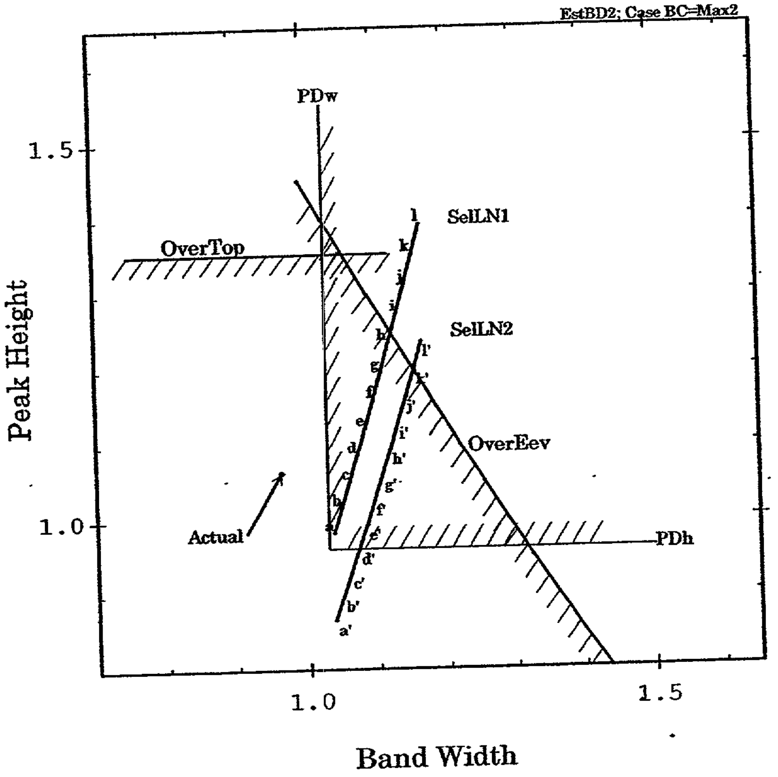
EstBD2; Case BC=Max2
PDw
1.5
1.0
Peak Height
SelLN1
SelLN2
OverTop
OverEev
PDh
Actual
a
b
c
d
e
f
g
h
i
j
k
l
a'
b'
c'
d'
e'
f'
g'
h'
i'
j'
k'
l'
1.0
1.5
Band Width

Fig.12

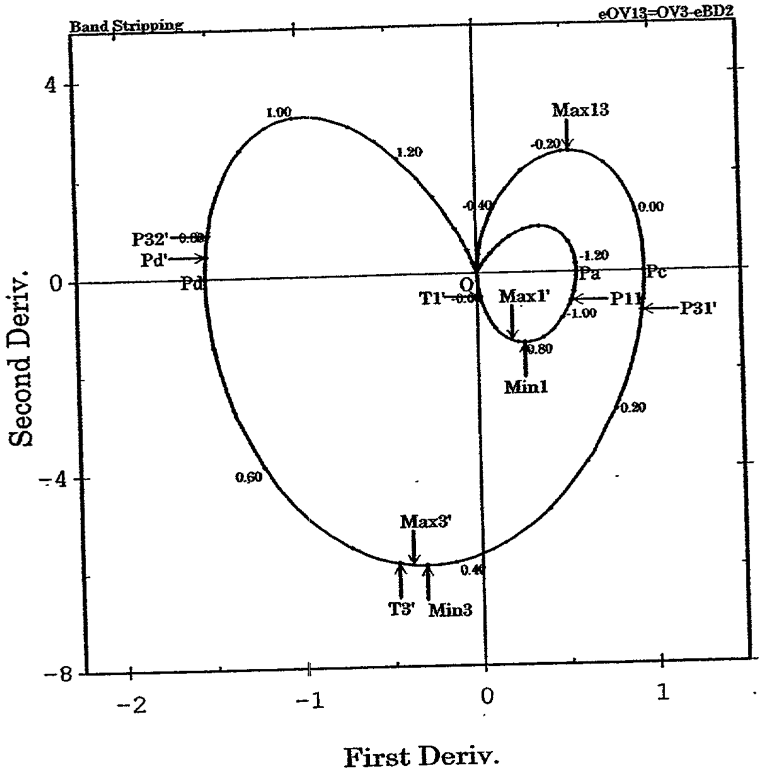

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Fig.13

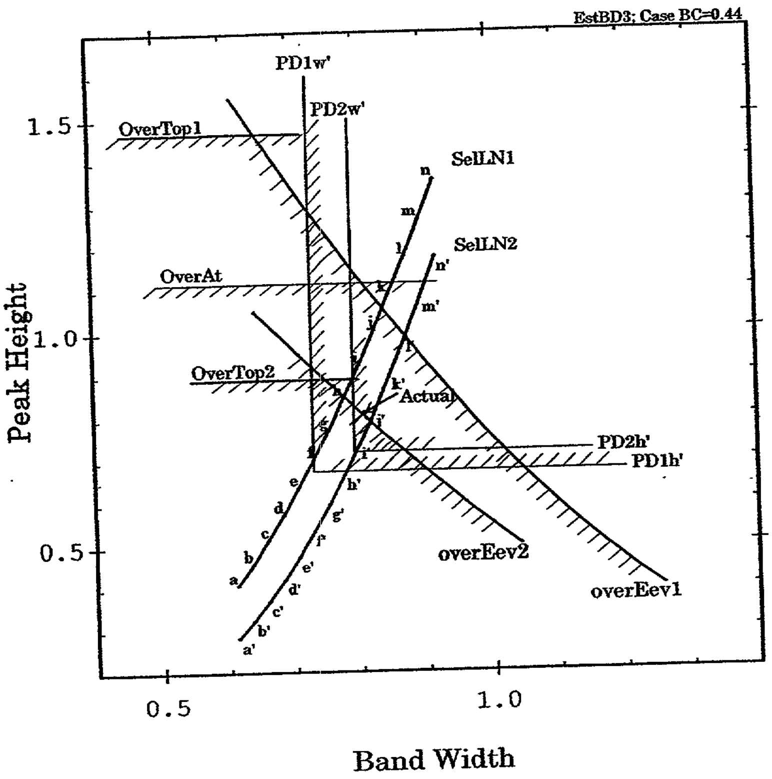
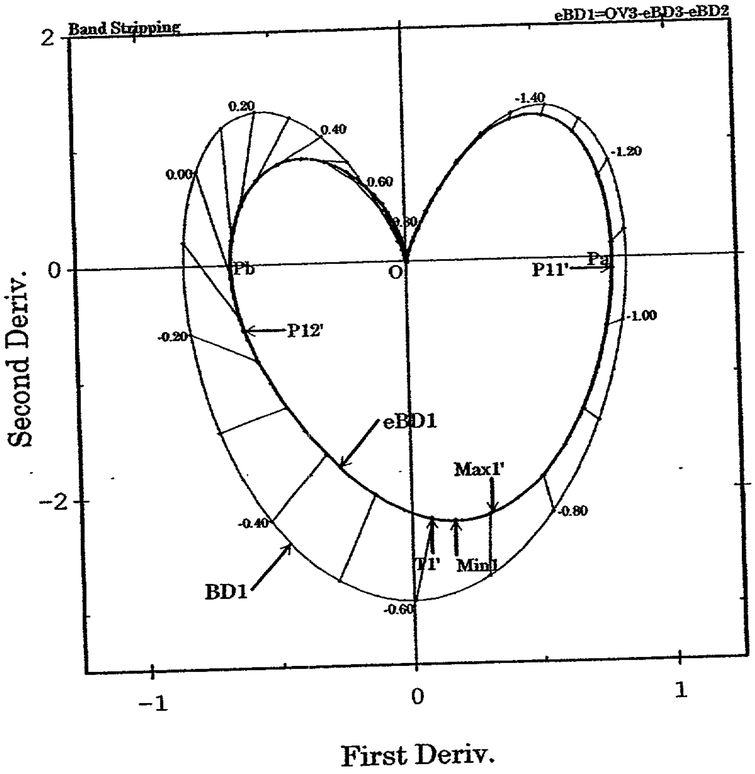

EstBD3; Case BC=0.44
PD1w'
PD2w'
OverTop1
SelLN1
SelLN2
OverAt
OverTop2
Actual
PD2h'
PD1h'
overEev2
overEev1
a
b
c
d
e
f
g
h
i
j
k
l
m
n
a'
b'
c'
d'
e'
f'
g'
h'
i'
j'
k'
l'
m'
n'
1.5
1.0
0.5
0.5
1.0
Peak Height
Band Width

Fig.14



Band Stripping
eBD1=OV3-eBD3-eBD2
2
0
-2
-1
0
1
Second Deriv.
First Deriv.
0.20
0.40
0.00
0.60
0.80
-1.40
-1.20
-1.00
-0.20
-0.40
-0.60
-0.80
Pb
O
P11'
Pa
P12'
eBD1
Max1'
T1'
Min1
BD1

Fig.15

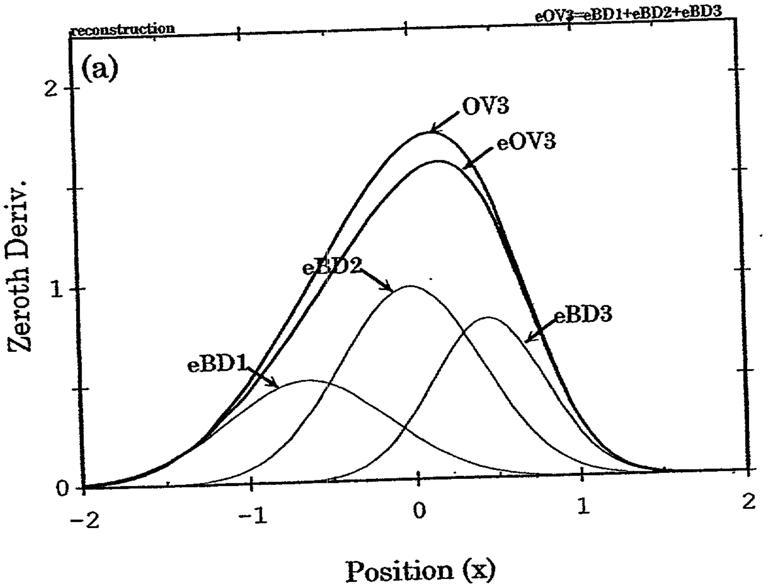


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Fig.16

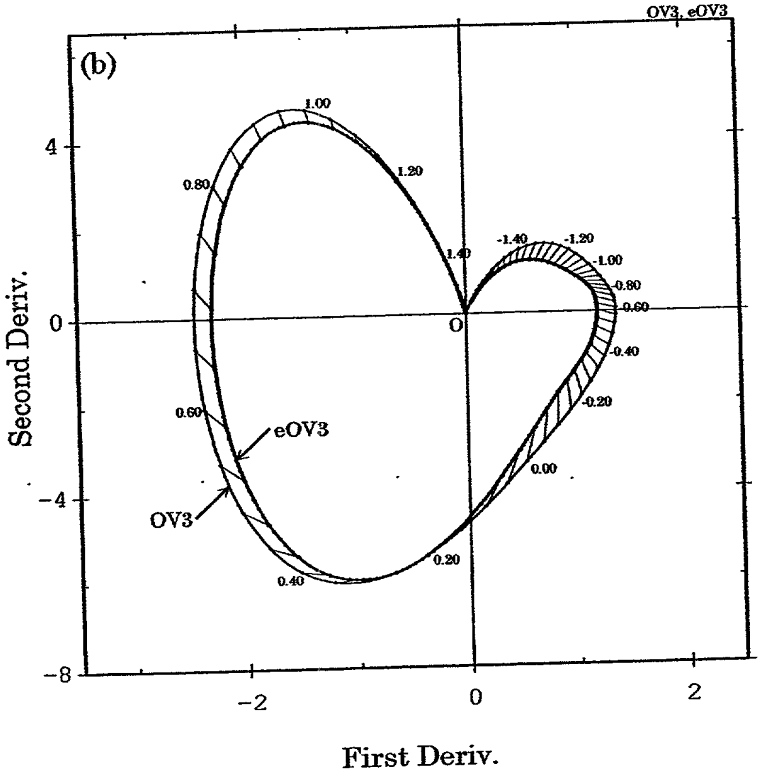

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Fig.17

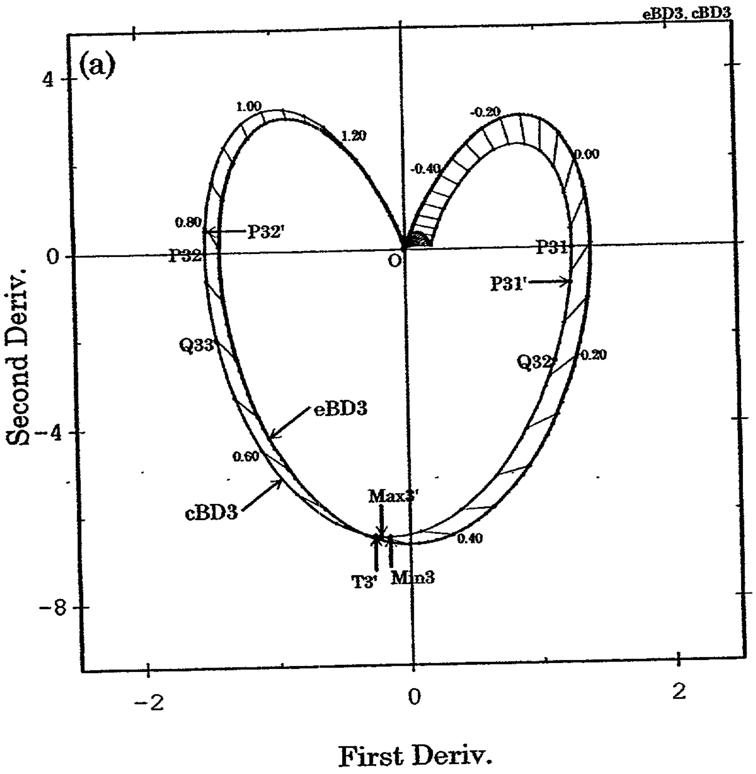

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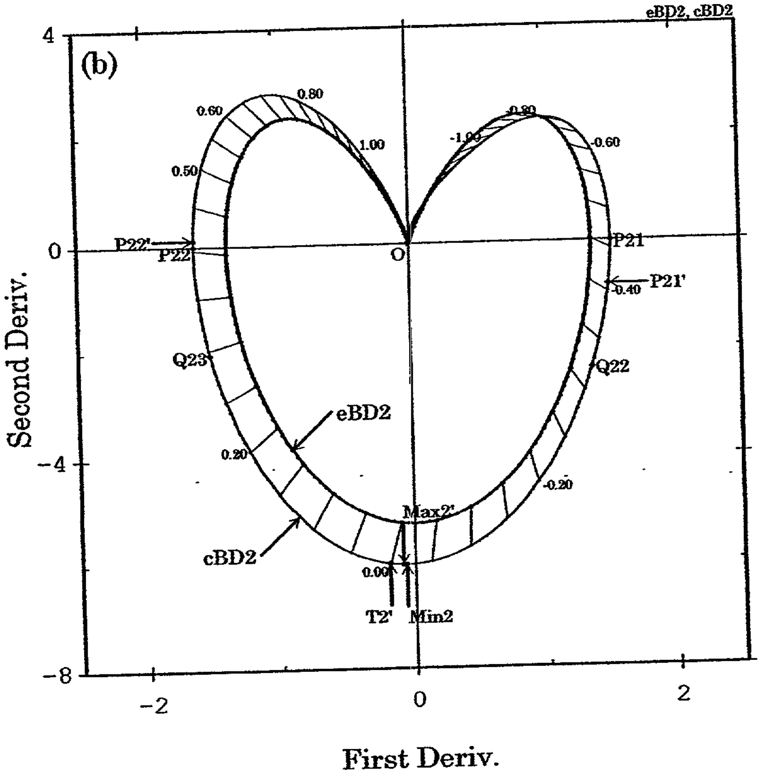
Fig.18



10031256.021102

Fig.19

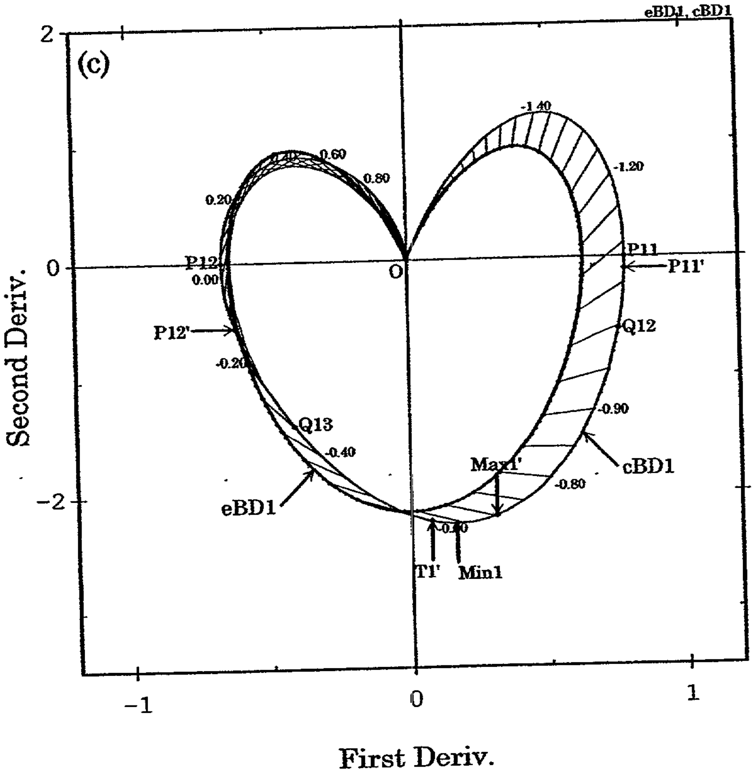


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Fig.20

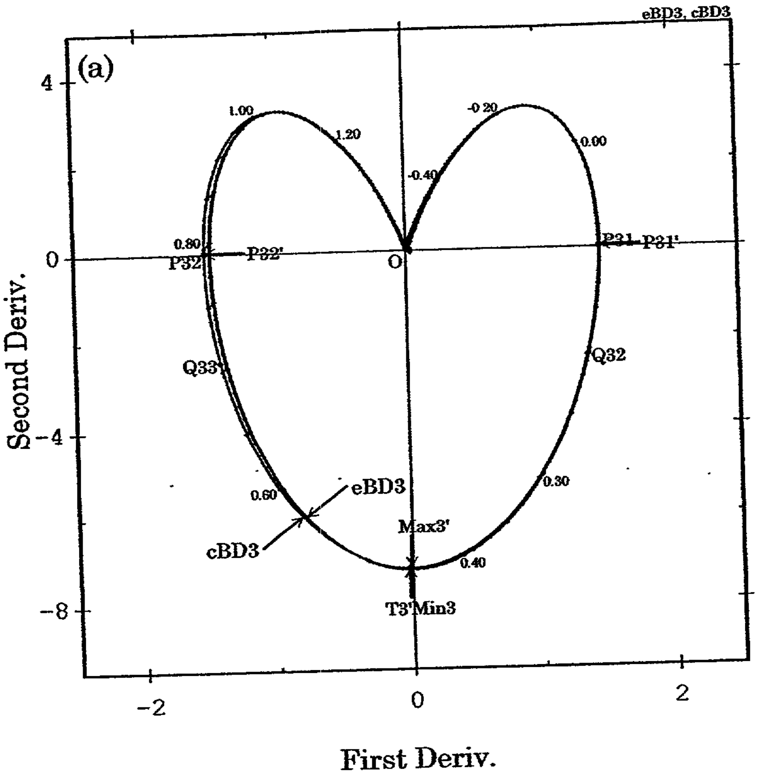
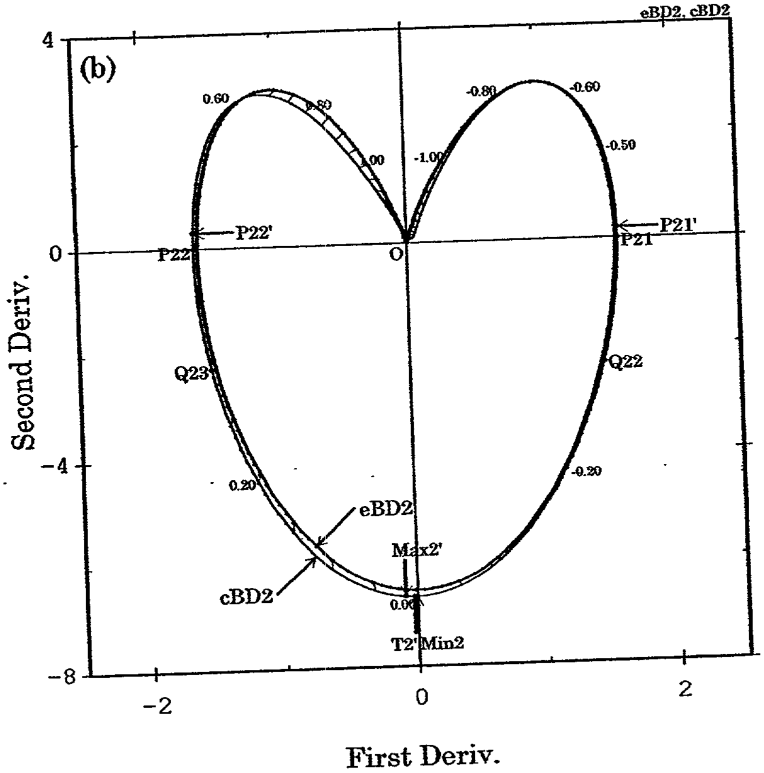
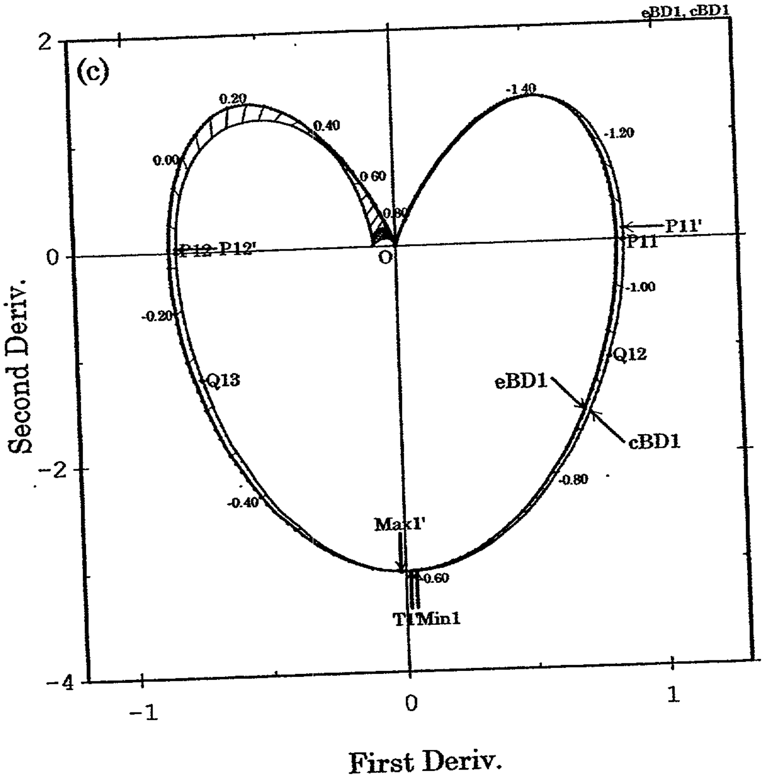

eBD3, cBD3
(a)
4
0
-4
-8
Second Deriv.
1.00
1.20
-0.20
0.00
-0.40
0.80
P32'
P32
O
P31
P31'
Q33'
Q32
0.60
eBD3
cBD3
Max3'
0.30
0.40
T3'Min3
-2
0
2
First Deriv.

Fig.21



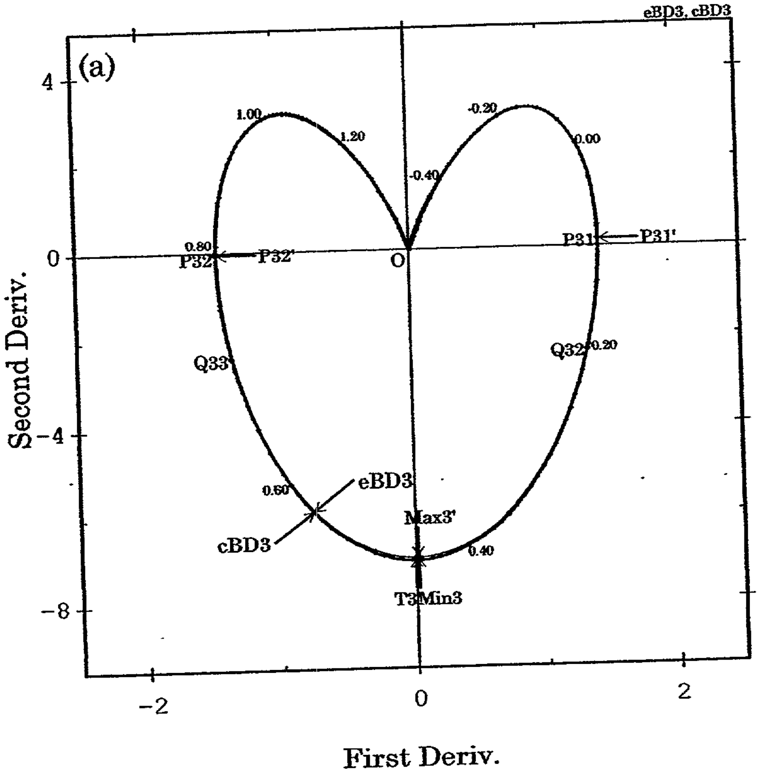
eBD2, cBD2
(b)
4
0
−4
−8
−2
0
2
Second Deriv.
First Deriv.
0.60
0.80
1.00
-1.00
-0.80
-0.60
-0.50
P22'
P22
O
P21'
P21
Q23
Q22
0.20
-0.20
eBD2
cBD2
Max2'
0.00
T2'
Min2

Fig.22



10520541 . 012605

Fig.23



09825407 . 022501

Fig.24

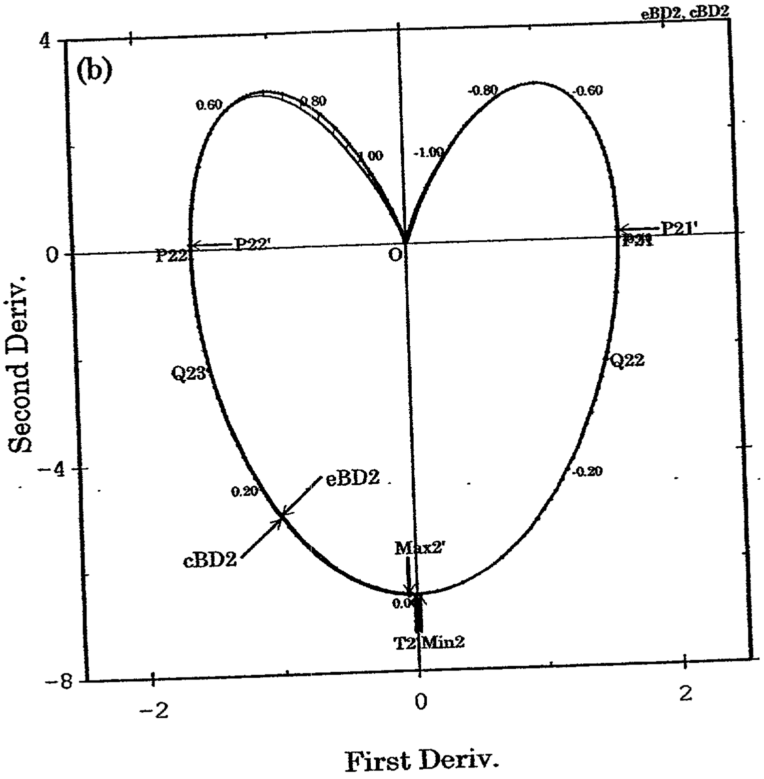
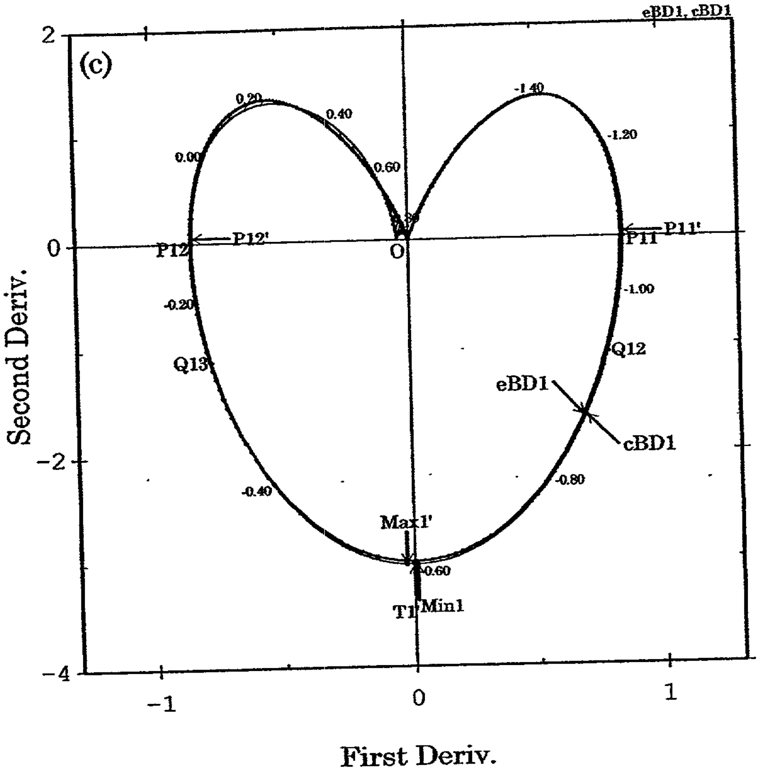

(b)
eBD2, cBD2
4
0
-4
-8
-2
0
2
Second Deriv.
First Deriv.
0.60
0.80
1.00
-1.00
-0.80
-0.60
P22
P22'
O
P21'
P21
Q23'
Q22
0.20
-0.20
eBD2
cBD2
Max2'
0.00
T2
Min2

Fig.25



09782440 .021301